



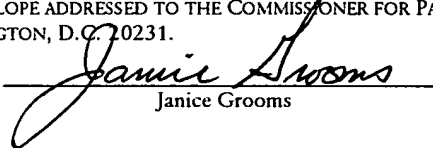
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

<b>Applicant:</b> THOMAS I. INSLEY et al.	<b>Examiner:</b> Leo, L.
<b>Serial No.:</b> 09/099,632	<b>Group Art Unit:</b> 3743
<b>Filed:</b> June 18, 1998	
<b>For:</b> MICROCHANNELED ACTIVE FLUID HEAT EXCHANGER	<b>Docket No.</b> 27987-208414

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Janice Grooms

**BRIEF IN REPLY TO EXAMINER'S ANSWER**

This Brief is filed in response to the Examiner's Answer mailed August 27, 2002.

The Examiner's Answer has been carefully considered. It is respectfully submitted that the Examiner continues to apply mistaken legal standards for establishing a *prima facie* case of obviousness. The Examiner has consequently not met his burden of establishing a *prima facie* case.

The following arguments are presented in response to the remarks of the Examiner.

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## ARGUMENT

### **A. No Reference, or Combination of References, Cited by the Examiner Provides an Enabling Disclosure.**

It is submitted by the Applicants that the Examiner has improperly applied the legal standards for establishing obviousness.

Under established case law, references relied upon to support a rejection under 35 U.S.C. § 103 *must* provide an enabling disclosure. The test for enablement in the context of a § 103 rejection is whether the references place the claimed invention in the possession of the public. *In re Payne*, 606 F.2d 303, 314 (C.C.P.A. 1979) (citing *In re Brown*, 329 F.2d 1006, 1011 (C.C.P.A. 1964)). An invention is not in the possession of the public absent some known or obvious way to make it. *Id.* (citing *In re Hoeksema*, 399 F.2d 269, 274 (C.C.P.A. 1968)).

The burden for demonstrating enablement of a claimed invention is on the Patent Office. *In re Hoeksema*, at 274-275. The cases cited above are illustrative. In *Payne*, the examiner put forth a proposed method by which the claimed invention could be made. The C.C.P.A. found that the proposed method was sufficiently suggested by the prior art, and therefore that the examiner had overcome the burden of establishing a *prima facie* case of obviousness. *Id.* at 315. On the other hand, in *Hoeksema*, the Patent Office made no showing of a known or obvious way to manufacture the claimed invention, 399 F.2d at 273, and the C.C.P.A. reversed a finding of obviousness by the B.O.P.A. In *Brown*, the Board of Appeals

was also reversed where there was no showing by the Patent Office that a method existed in the prior art to make the claimed invention.

In the present case, the Examiner has failed to put forth any method by which the claimed invention could have been made, at the time of the invention by Applicants. The Examiner, in his remarks in response to Applicants' argument on lack of enablement, states only that "[t]he requirement of patent disclosures is such that one of ordinary skill in the art is enabled to make *and/or* use the device in industry." Examiner's Answer, page 11 at last full paragraph (emphasis added). The Examiner presumably concludes that the Applicants' claimed invention is enabled by the prior art of record.

The Examiner's statement quoted above is an incorrect statement of the law. "In order to render a claimed apparatus or method obvious, the prior art must enable one skilled in the art to make *and* use the apparatus or method." *Beckman Instruments v. LKB Produkter AB*, 892 F.2d 1547, 1551 (Fed. Cir. 1989) (emphasis added). An inquiry into a method of making the invention is required by the "subject matter as a whole" language of § 103. *In re Hoeksema*, at 273. The absence in the prior art of a method of making the claimed invention is "yet another difference between the claimed invention and the prior art which must be considered in the context of section 103." *Id.*

The Examiner states in his Answer that "it is unclear why Rosman et al must disclose a method of manufacturing the device in order for one of ordinary skill in the art to fully grasp and appreciate the structure of Rosman et al." Examiner's Answer, page 11 at second full paragraph. The issue is not whether the person of ordinary skill would *appreciate* the structure of Rosman '896. Rather, the issue is whether the *invention claimed by the*

*Applicants* is in the possession of the public. For the invention to be in the possession of the public, the prior art must enable both the use *and* the manufacture of the claimed invention.

The Examiner has not met the burden of showing enablement in this case. The exclusive reference cited by the Examiner that, at best, speculates on the use of polymeric material in a heat-exchanging device is Rosman '896. As the Examiner concedes, Rosman '896 does not report a polymeric *film* material, and does not provide hydraulic radius, channel length, or aspect ratio for its devices. Examiner's Answer, page 6 at third full paragraph. Rosman '896 makes only a passing reference (specifically, a *single word*) to the possibility of using polymer material to make a channeled plate having an internal manifold, for use in a plate/fin heat exchanger. As is fully discussed in the Appeal Brief at page 20-22, no information is provided on how to fabricate a heat exchanger using microstructured polymeric film material. The proposed combination of Rosman '896 with Bae '964, which does not report polymeric material, does not cure the deficiency.

The references cited by the Examiner do not provide enabling disclosure on how to make the invention claimed by Applicants. The Examiner has not provided references evidencing a known or obvious way to make the claimed invention. Consequently, the devices claimed by Applicants were not in the possession of the public at the time of the invention. Only the present application teaches and enables a heat exchanger made using microchanneled polymeric film material. This difference must be considered in the "subject matter as a whole" inquiry required by § 103. Therefore, under the law as stated in the cases cited above, the references relied upon by the Examiner cannot support a rejection under 35

U.S.C. § 103. The Examiner has not met the burden for *prima facie* obviousness, and the rejections should be reversed.

**B. The Examiner Has Not Established a Proper Rationale For Making a Substitution or For Combining References to Arrive at the Claimed Invention.**

To establish a *prima facie* case, there must be some suggestion or motivation in the references themselves, or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine teachings from references. M.P.E.P. § 2143; see also *In re Lee*, 277 F.3d 1338 (Fed. Cir. 2002).

With regard to the obviousness rejection of claims 1, 21, 31-32 and 34 in view of Phillips '709, and the obviousness rejection of claims 1, 21-23, 31-32 and 34 in view of Bae '964, the Examiner states in his Answer that, "*In re Leshin* is relied upon to teach obviousness of employing a known heat exchange material for its known physical properties." Examiner's Answer, page 9 at second full paragraph. As argued in the Appeal Brief at page 9 *et seq.*, the Examiner relies on an overly broad application of *In re Leshin*. The *Leshin* decision stands for the proposition that it may be obvious to choose the most suitable *plastic*, from the class of *known plastics*, when it is taught in the prior art that the claimed device can be formed from *plastic*. The decision does not support the conclusion that a claim to a device made from *another type of material altogether* would be obvious, merely because the chosen material yields a device that is more suitable for an intended purpose. Therefore, the Examiner has failed to provide an appropriate rationale for the proposed modification of Phillips '709 or Bae '964, and the rejections should be reversed.

With regard to the obviousness rejection of claims 1-5, 9-10, 12-23, 31-32 and 34 over Rosman '896 in view of Bae '964, the Examiner concedes that there is no explicit instruction to combine the teachings of the references. Examiner's Answer, page 13 at first paragraph. Rather, the Examiner asserts that one having ordinary skill in the art would recognize the "fundamental teaching" from Bae '964 that a desired dimensioned channel structure can be employed in a polymer plate heat exchanger of Rosman '896 "for the purpose of achieving a desired heat exchange." *Id.*

The Examiner's reliance on an assertion that the skilled artisan "recognizes" the fundamental teaching from Bae '964 *without* explicit instruction is misplaced. The Examiner is improperly relying on the level of skill in the art to provide the missing motivation. The level of skill in the art should rarely be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 1324 (Fed. Cir. 1999).

Furthermore, the bare statement of a motivation to combine references is insufficient. The Examiner's sole statement of motivation is that the references can be combined "for the purpose of achieving a desired heat exchange." Examiner's Answer, page 13 at first paragraph. Obviously, a primary concern in the design of any heat exchanger is the rate of heat exchange. The Examiner's statement of motivation is equivalent to a conclusion that all references relating to heat exchangers may be properly combined. Conclusory statements, without a reasoned analysis supporting a teaching, suggestion or motivation to combine references, are insufficient to establish a case of obviousness under § 103. *In re Lee, supra.*

Also, a proper combination of references must suggest the *desirability* of making the combination. As argued in the Appeal Brief at page 24-26, a *recognition* that a prior art

reference can be modified or combined with other teachings is not sufficient to establish a *prima facie* case of obviousness. The Examiner relies on his assertion that the person skilled in the art would *recognize* the fundamental teaching of Bae '964; the Examiner has not provided any suggestion in the cited references that the combination of teachings would be *desirable*.

The Applicants, on the other hand, have presented reasons why one skilled in the art would recognize that using a polymeric film material would *not* be a desirable substitution, if one's objective is merely to optimize heat exchange. Furthermore, the Applicants' remarks on manufacturability of the prior art devices and the manufacture of the claimed devices are relevant to the issue of *whether* the skilled artisan would be led to make the proposed combination or modification without explicit instruction. Without an available known method for manufacturing the claimed devices, the skilled artisan at the time of the invention would *not* have been led to make the proposed combination.

The combination of Rosman '896 with Bae '964 is not supported by a suggestion to combine the teachings. The rejection should therefore be reversed.

### CONCLUSION

The references cited by the Examiner fail to teach or suggest recited elements of the claimed invention, namely, the use of a structured layer of polymeric film material to form flow channels in an active fluid transport heat exchanger. The Examiner has not established a proper rationale for making a substitution or for combining references to arrive at the claimed invention. The Examiner's reliance on *In re Leshin* to provide the missing rationale is misplaced. Furthermore, the references cited by the Examiner do not enable a person

having ordinary skill in the art to make an active fluid transport heat exchanger that meets each and every element of the Applicants' claims. The Examiner has thus failed to make out a *prima facie* case of obviousness, according to the legal standards established by the cases cited herein. Accordingly, pending claims 1-5, 9-10, 12-24, 31-32 and 34 are allowable over the prior art of record. Applicants respectfully requests that the Board reverse the outstanding rejections of the pending claims, and that the application be returned to the Examiner for processing in accordance with that reversal.

No fee is thought necessary for the filing and consideration of this Brief in Reply to Examiner's Answer. A request for oral hearing, and the required fee, is submitted along with this Brief. Should any additional fees be required, the Commissioner is authorized to charge our Deposit Account No. 06-0029 and is requested to notify us of the same.

Respectfully Submitted,

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